



Early Journal Content on JSTOR, Free to Anyone in the World

This article is one of nearly 500,000 scholarly works digitized and made freely available to everyone in the world by JSTOR.

Known as the Early Journal Content, this set of works include research articles, news, letters, and other writings published in more than 200 of the oldest leading academic journals. The works date from the mid-seventeenth to the early twentieth centuries.

We encourage people to read and share the Early Journal Content openly and to tell others that this resource exists. People may post this content online or redistribute in any way for non-commercial purposes.

Read more about Early Journal Content at <http://about.jstor.org/participate-jstor/individuals/early-journal-content>.

JSTOR is a digital library of academic journals, books, and primary source objects. JSTOR helps people discover, use, and build upon a wide range of content through a powerful research and teaching platform, and preserves this content for future generations. JSTOR is part of ITHAKA, a not-for-profit organization that also includes Ithaka S+R and Portico. For more information about JSTOR, please contact support@jstor.org.

estimated the total lake area of the state at 810 square miles. The authors believe that twice this amount is more nearly correct.

W. B. W.

Preliminary Report on Tertiary Paleontology of Western Washington.

By CHARLES E. WEAVER. Washington Geol. Survey, Bull. No. 15, 1912. Pp. 80, pls. 15.

A Tertiary invertebrate marine fauna of 246 species is listed in this report. Eighty-four of these are new species and are described and figured for the first time. The fauna is very largely pelecypods and gastropods.

Lower Eocene rocks are absent. The Upper Eocene fauna totals 79 species. The Oligocene fauna is limited to 10 species. A detailed report will supplement this bulletin later and treat more fully of the stratigraphic and structural relations.

W. B. W.

Geology of East Central Oklahoma. By L. C. SNIDER. Okla. Geol. Survey, Bull. No. 17, 1914. Pp. 25, pls. 2, fig. 1.

The area treated in this report includes all of Haskell County and portions of five adjoining counties. It deals with structural features almost entirely and the stratigraphy given follows United States Geological Survey reports.

About twenty anticline and syncline axes are plotted. Well-drillers may locate the axes of anticlines roughly from this map and supplement it by detailed work in each locality. For the convenience of many who have not access to the annual reports of the United States Geological Survey, the report includes a map and descriptions of the principal folds in a region adjacent on the southwest. A number of wells are producing gas in these two areas, but oil wells of importance have not been reported.

W. B. W.

Ponca City Oil and Gas Field. By D. W. OHERN and R. E. GARRETT. Okla. Geol. Survey, Bull. No. 16, 1912. Pp. 30, pls. 2, fig. 1.

The Ponca oil and gas field is located in north-central Oklahoma near the Kansas line. It produced gas only until 1911 when the first oil

well was brought in. Thirty producing oil wells were operating at the time this bulletin was written.

The report describes the formations of Lower Permian and Pennsylvanian age that outcrop in the Ponca City area, and also those underlying that outcrop to the east and west. The structure of the Ponca City anticline is shown by a contour map on the surface of the Herington limestone.

It is the opinion of the authors that many of the wells labeled "dry" are not deep enough to test their localities. Some holes do not go down 1,000 feet, and few below 1,600; but the approximate position of the lowest oil sand is much deeper, and the anticline will not be tested thoroughly until wells have reached the Tucker sands at a depth of nearly 3,500 feet.

W. B. W.

The Mineral Springs of Saratoga. By JAMES F. KEMP. New York State Education Department, Bull. No. 517, 1912. Pp. 79, figs. 8, tables 7.

There are few problems more difficult for geologists than those connected with the origin of mineral springs. The district centering at Saratoga Springs has long been famous for its mineral waters, and this report has been prepared in response to the very general interest regarding them. The report takes up briefly a historical sketch of the springs, the local geology, and a general description and classification of groundwaters.

The chemical composition of the water is known by analyses of three different periods, 1838, 1871, and 1905. These show a total of ten acid and twelve basic ions. The most abundant salt is sodium chloride followed by calcium, magnesium, and sodium bicarbonates. The waters carry an average of two or three volumes of CO₂ in solution. The sulphate ion is practically absent.

The author rejects any theory that attributes the springs to connate waters, the absence of sulphates being the strongest chemical evidence against such theories. The same geological section is faulted in many other places in the Hudson and Champlain valleys, yet even uncarbonated brine springs are lacking elsewhere. The author's conclusion is that many of the mineral constituents, as the haloids, sodium carbonate, and the carbonic acid gas, are from deep-seated sources. The tendency of dying volcanoes to give off abundant CO₂ and the occurrence